

VOICULESCU, M., prof.; CARUNTU, Veronica, dr.; PEREDERI, Lenta, chim.;  
ZAMFIRESCU, I., dr.; RADULESCU, M. dr.; PAUN, L. dr.; VLAD, R.,  
dr.; DUMINICA, Al, dr.; BUTOIANU, C. dr.; CONDRATOV, Lidia, dr.

Possible relations between the etiological type of viral hepatitis and the sequelae of the hepatitis (chronic hepatitis and cirrhosis). Med. intern. (Bucur.) 16 no. 7: 783-791 J1 '64

1. Lucrare efectuata la clinica de boli contagioase nr. 1, I.M.F. [Institutul medico-farmaceutic], Spitalul "Colentina" (director: prof. M. Voiculescu).

RUMANIA

616.15:616.2:576.8

ATHANASIU, Pierrette, SARATEANU, D., SURDAN, C., POPESCU, George-  
ta, STEFANESCU, Ileana, BABES, V., BILLER, Sigrid, BRUNITKI, Al.,  
DANIELESCU, Georgeta, BUTOIANU, C., IALOMITEANU, M., RADULESCU, I.,  
COSTANDACHE, D., DOERESCU, Gh., and NAUM, O., of the Institute of  
Inframicrobiology (Institutul de Inframicrobiologie) of the  
Academy of the Socialist Republic of Rumania (al Academiei  
Republicii Socialiste Romania).

"A Study of the Relations Between the Etiology and Changes in the  
Serum Electrophoregram in Patients with Acute Rickettsial, Para-  
rickettsial, Adenovirotic and Grippal Pneumopathies."

Bucharest, Studii si Cercetari de Inframicrobiologie, Vol 17,  
No 2, 66, pp 93-103.

Abstract: Statistical analysis of laboratory data showed that  
in the acute stages of all the above diseases the albumins are  
lowered and globulins are raised, and the albumin/globulin  
ratio is less than unity. During convalescence the proteinogram  
returns to normal alongside the increase of specific antibodies  
in the case of grippal or adenovirus infections, but in the case  
of rickettsial or pararickettsial ones does so only when the  
specific antibodies are countered by treatment.

Includes 4 Rumanian and one French reference.

1/1

NICOARA, S., dr.; BUFOIANU, Elena, dr.; TAIGAR, Steluta, dr.;  
EUGENIU, A., preparator

Clinical and hematological aspects of chronic benzene  
poisoning. Med. intern. 15 no.8:979-986 Ag '63.

1. Lucrare efectuata la Clinica de hematologie si Centrul de  
hematologie, Bucuresti (director: prof. C.T. Nicolau).  
(BENZENE) (OCCUPATIONAL DISEASES)

BUTOIANU, Elena

ROMANIA

MONTENAU, N., MD; BUTOIANU, Elena, MD; TAIGAR, Steluta, MD.

Haematology Clinic of the Hospital M.T.T.C. II, Bucharest  
(Clinia de hematologie a Spitalului M.T.T.C. II,  
Bucuresti) - (for all); Director: Professor C. T. Nicolau,  
Corresponding Member of the Academy of the Romanian People's  
Republic.

Bucharest, Medicina Interna, No 12, Dec 63, pp 1477-1480

"Results of Treatment with Dopan in Certain Cases of Tumors  
of the Haematopoietic Organs." (Paper presented to the  
Society of Medical Sciences, Haematology Section, September  
1962.)

NICOLAU, C.T.; TEITEL, P.; BUTOIANU, E.; TAIGAR, S.

Research with radioactive chromium (Cr-151) on the value of the indirect criteria used for the diagnosis of states of accelerated erythrocytosis. Stud. cercet. med. intern. 4 no.4:469-482 '63.

1. Membru corespondent al Academiei R.P.R. (for Nicolau).  
(HEMOLYSIS) (ERYTHROCYTES) (ANEMIA, APLASTIC)  
(ANEMIA, HEMOLYTIC) (LEUKEMIA)  
(HODGKIN'S DISEASE) (POLYCYTHEMIA VERA)  
(HEMORRHAGIC DIATHESIS) (PLASMOCYTOMA)

MUNTEANU, N., dr.; BUTOIANU, Elena, dr.; TAIGAR, Steluta, dr.

Results of treatment with dopane in some tumors of the hemopoietic system. Med. intern. 15 no. 12:1477-1480 D'63.

1. Lucrare efectuata in Clinica de hematologie a Spitalului M.T.T.C. II Bucuresti (director: prof. C.T.Nicolau, membru corespondent al Acad. R.P.R.).

\*

SCRIMA, Doina, intern; BUTOIANU, Elena, dr.; POPESCU, E., dr.

Treatment with 6-mercaptopurine in autoimmune hemolytic anemia.  
Med. intern. 16 no.2:247-253 F'64.

1. Lucrare efectuata in Clinica hematologica, Spitalul M.T.Tc.  
nr.2, Bucuresti (director: prof. C.T. Nicolau).

\*

TEITEL, P., dr.; BRATU, V.dr.; BUTOIANU, E. dr.; TAIGAR, S. dr.

Uses of radioactive isotopes in hepatology. Med. intern.  
(Bucur.) 10 no.5:523-529 My'64

1. Lucrare efectuata la Centrul de hematologie si Clinica  
de hematologie I.M.F. [Institutul medico-farmaceutical],  
Bucuresti (director: prof. C.T.Nicolau).

NICOLAU, C.T., prof.; TEITEL, P., dr.; FOTINO, M., dr.; BUTOIANO, E. dr.;  
TAIGAR, S., dr.

Frequency of changes in the plasticity and sensitization of erythrocytes by autoantibodies in different blood diseases. (3 years of clinical experience in the use of the erythrocyte filterability test). Med. intern. (Bucur.) 16 no.8:907-915 Ag '64.

1. Lucrare efectuata in Clinica de hematologie a Facultatii de perfectionare si specializare a medicilor, Institutul medico-farmaceutic, Bucuresti.

NICOLAU, C.T., prof.; NICOARA, S., dr.; POPESCU, E., conf.; TAIGAR, Stela, dr.; BUTOIANU, Elena, dr.; URSEA, Constanta, dr.; POPESCU-MUT, Ileana, dr.

Cytochemical studies in 41 cases of acute leukemia. Med. intern. (Bucur) 17 no.5:515-530 My '65.

1. Lucrare efectuata la Centrul de hematologie, Bucuresti, in colaborare cu Clinica de hematologie, Institutul medico-farmaceutic, Bucuresti. 2. Membru corespondent al Academiei Republicii Populare Romine (for Nicolau).

NICOLAU, C.T.; TEITEL, P., dr.; BRATU, V., chim.; XENAKIS, Agripina, dr.;  
Butolanu, Elena, dr.

Favorable therapeutic effect of adenosine monophosphate (AMP)  
in a case of compensated chronic hemolytic disease due to  
insufficiency of erythrocytic energetic metabolism. Med. intern.  
(Bucur.) 17 no.4:423-430 Ap '65.

1. Lucrare efectuata in centrul de hematologie, Bucuresti  
(director: prof. C.T. Nicolau).

NICOLAU, C.T.; TEITEL, P.; FOTINO, M.; BUTCIANU, E.; TAIGAR, S.

The frequency of plasticity alterations and sensitization of erythrocytes with autoantibodies in various blood diseases. (Three years' experience in clinical application of the erythrocyte filtrability test.). Rumanian med. rev. 19 no.1: 22-29 Ap-Ju '65.

ABRAMOV, V.G., dotsent; BUTOK, M.A., ordinator

Treatment of sympathetic ophthalmia in children. Sbor. nauch.  
trud. Ivan. gos. med. inst. no. 28:189-196 ' 63 (MIRA 19:1)

1. Iz kafedry glaznykh bolezney (zav. - prof. T. I. Samsanova)  
Ivanovskogo gosudarstvennogo meditsinskogo instituta (rektor -  
dotsent Ya. M. Romanov) i Ivanovskoy oblastnoy klinicheskoy  
bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR A.A. Cheyda).

BUTOLIN, Y. V.

My method for servicing seven automatic machines in two bottling lines. Spirt. prom. 23 no.4:30-32 '57. (MLRA 10:5)

1. Odesskiy likero-vodochnyy zavod.  
(Bottling machinery)

11F

Reduction of dehydroascorbic acid by the liver in connection with ascorbic acid decomposition in rats. S. I. Vinokurov and M. L. Butom. *Biochem. J.* (Ukraine) 12, 551-64 (in Russian, 554-67; in English, 508-71) (1938).  
 When rats are cooled ( $-5^{\circ}$  to  $+4^{\circ}$ ) the ascorbic acid content of the liver is greatly reduced. On the supposition that this may be due to the loss of reducing power of the liver, the authors incubated dehydroascorbic acid with liver pulp from normal and cooled rats. The pulp of cooled rats had only  $\frac{1}{4}$  of the reducing power of that of normal rats. This was due to a fall in the reduced glutathione content of the liver of rats after cooling. Admin. of reduced glutathione increased the reducing power of the pulp. The dehydroascorbic acid which failed to become reduced did not break down further. R.L.

PROCESSING AND PREPARATION INDEX

The formation of dehydroascorbic acid by the decomposition of ascorbic acid in the animal organism. S. I. Vinokurov and M. L. Hutov. *Bull. biol. med. exptl.* U. S. S. R. 7, 98-100 (1930) (in German). - The ascorbic acid (I) content of the mouse falls from the normal of 11.2 mg. % to 7.5 mg. % when the animal is kept at  $-2^{\circ}$  to  $+4^{\circ}$  for 6-10 hrs. The amts. of I and dehydroascorbic acid (II) in the liver, as detd. by means of ascorbinase, were 30 and 2 mg. %, resp., in normal and 16 and 8 mg. %, resp., in cooled mice. The contents of I and II in rat liver before autolysis at  $16-20^{\circ}$  for 24 hrs. were 10.7 and 0.4 mg. %, resp., and 4.6 and 2.3 mg. %, resp., after autolysis. The increase in II depends upon the pH. In phosphate buffer the greatest increase in 6-18 hrs. was found at pH 4.5-6. At pH 7-7.5 the amt. of I decreases but no increase in II was observed. Conclusion: II is a side product of I decompn. in the animal organism.

S. A. Karjala

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESS AND PROPERTIES INDEX																																																			
<p>Changes in the ascorbic acid in animal tissues with age under conditions of interference with oxygen respiration. E. R. Kratinova and M. L. Butom. <i>Mrd. expil.</i> (Ukraine) 1940, No. 3, 58-64; <i>Chem. Zentr.</i> 1941, I, 391. Rapis. are reported with newborn, 1-month old and 18-month old rats. These 3 age groups were exposed to an atm. of N. The newborn rats died after 3 hrs., the 1-month old ones died immediately and those 18-months old died in 2-3 min. In all the organs of the 3 groups examined the ascorbic acid content was reduced. This was especially marked in the liver and kidneys. The dehydro-ascorbic acid was reduced in the newborn animals and increased in those 1-month old and those 18-months old, the increase being less in the last group. Parallel results were obtained after injection of NaCN (1.2 mg. per 100 g. body wt.), with the 1-month old animals reacting more violently than the other groups and showing the greatest decrease in ascorbic acid. These results are interpreted to indicate that O is necessary for the formation and retention of ascorbic acid. M. G. Moore</p>																																																			
<p>ASB-35 A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

The functional relationship between ascorbic acid and adrenaline. The effect of adrenaline on the mobilization of liver and muscle glycogen in C-avitaminotic and in ascorbic acid-saturated guinea pigs. A. M. Utevskii and M. L. Butman. *Dokl. Akad. Nauk SSSR* 1970, 202, 111-113.

M. L. Butman. *Hull. biol. med. exptl. (U. S. S. R.)* 1963, 10, 1. (English; J. of. C. 1, 34, 2169). The Lactic acid content of the muscles of C-vitamin-deficient guinea pigs decreased from 158 to 121 mg. after adrenaline (II) injection. That of ascorbic acid-saturated animals increased from 146 to 181 mg. % on I-injection. The Lactic acid content of fasting avitaminous animals rose from 116 to 166 mg. % after I-injection, while satn. with vitamin C followed by I-injection raised it to 225 mg. %. The ascorbic acid (II) content of the tissues of avitaminous animals was: liver 2.5-5.0 (av. 3.6 mg. %), muscles 0 and adrenals 0.6-19.2 (av. 12.4 mg. %), while in the tissues of II-satd. animals it was 9.0-38.2 (av. 17.3 mg. %), 1.9-4.3 (av. 2.4 mg. %) and 93.6-227.6 (av. 111.5 mg. %) respectively. The glycogen content of the muscles of avitaminous animals (av. 180 mg. %) was not changed appreciably by I-injection. The muscles of II-satd. animals showed 110 mg. % on the av. before and 350 mg. % on the av. after I-injection. Blood sugar increased from 122.1 to 147.6 mg. % in avitaminous and 116.0 to 183.0 mg. % in II-satd. animals after I-injection, while the liver glycogen value after I-injection was 0.51 and 1.08% in the 2 groups. The fact that the injection of I into avitaminous animals after fasting for 4 days to decrease tissue carbohydrate, followed by satn. with II (100 mg. per day), gave a more pronounced effect than when no II was added to the diet indicates that the accumulation of II in the tissues enhances the effect of I on glycogenolysis and glycolysis.

S. A. Karijala

S. A. Karjala

TEST AND INC. GROUPS																										PROCESSES AND PROPERTIES INDEX																									
TEST AND INC. GROUPS													PROCESSES AND PROPERTIES INDEX													TEST AND INC. GROUPS													PROCESSES AND PROPERTIES INDEX												
<p>CA</p> <p>Influence of ascorbic acid on the reduction of oxidation products of adrenaline. A. M. Utevskii and M. L. Butom (2nd. Med. Inst., Kharkov). <i>Byull. Eksp. Biol. Med.</i> 12, 302-3 (1941); cf. C.A. 35, 749. Oxidation products of adrenaline (p-quinone (I) by Kisch method and adrenochrome by I oxidation) do not give noticeable hyperglycemia on injection into guinea pigs at 0.005 cc./100 g. level. <i>In vitro</i> shaking of these substances with ascorbic acid leads to the loss of their original red color and I will give a green color with FeCl<sub>3</sub>, showing some regeneration of the oxidized adrenaline. Injection of the latter into guinea pigs produces the adrenaline-like hyperglycemic action. Adrenochrome reduced in this manner does not regain this activity and remains inactive. Simultaneous injection of ascorbic acid with the I also gives hyperglycemic effect, showing that adrenaline regeneration can take place <i>in situ</i>. When I was injected at 0.005 mg./100 g. level, and followed in 15-30 min. by 20.5 mg./100 g. ascorbic acid, hyperglycemic effect was again evident. Neither oxidation product raises the blood lactic acid level; addn. of ascorbic acid, however, causes a rise of lactic acid level, with the quinone being most active. G. M. Kosolapoff</p>																																																			
<p>ASB 51.8 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

BUTOM, M. L.

USSR/Medicine - Nervous System Jul/Aug 48  
 Medicine - Adrenal Preparations

"Action of the Motor and Sympathetic Nerve Impulses on the Adrenaline  $\longleftrightarrow$  Dehydroadrenaline System, A. M. Uteviskiy and M. L. Butom, Ukr Inst of Experimental Endocrin, Khar'kov, 4 $\frac{1}{2}$  pp

"Biokhimiya" Vol XIII, No 4

Part of the adrenaline found in tissues is in an oxidized quinone form, which can be reduced to adrenaline. The reduction of this oxidized form into an active hormone can be accomplished by the introduction of ascorbic acid into animals which

12/49T81

USSR/Medicine - Nervous System(Contd) Jul/Aug 48

do not synthesize vitamin C. Nerve impulses are also capable of producing an active hormone from its oxidized form, as is shown by experiments on frogs. Submitted 2 Feb 48.

PA 12/49T81

12/49T81

CA

115

Role of the sympathetic nervous system in the metabolism of adrenaline during muscle irritation under various conditions. A. M. P'tevskii and M. L. Butom. *Rev. Roum. Biol.* 14, 452 (1969); cf. *C.A.B.* 47, 8073. Sympathetic nerve impulses in the frog cause the disappearance in muscle tissue of the reversibly oxidized form of adrenaline (dehydroadrenaline), and its reduction to adrenaline; bound adrenaline is also liberated in the process. These changes are unaffected by curare, but the effects are cancelled by ergotamine. Motor nerve impulses are without influence on the adrenaline-dehydroadrenaline systems and on bound adrenaline. H. Priestley

BA AIP

Adrenaline and dehydroadrenaline in walls of blood-vessels of the rabbit. A. M. Utevaly and M. L. Butom. (*Biokhimiya*, 1951, 18, 146—149).—Both adrenaline and dehydroadrenaline were identified and estimated in the walls of arteries and veins of the rabbit. The amount (as total adrenaline) varied from 150—800  $\mu\text{g}$ /100 g., the arteries usually containing more than the veins. The dehydroadrenaline varied from 0—30% of the total adrenaline present.

D. H. SMYTH.

CA

Action of the central nervous system on the fixation and reduction of adrenaline in the walls of blood vessels. A. M. Utevska and M. L. Butom (Ukr. Inst. Exptl. Endocrinol., Kharkov). *Biokhimiya* 17, 139-44(1982).—The subcutaneous injection of adrenaline (I) into rabbits increased the content of I in the arterial walls. The introduction of dehydroadrenaline did not increase the amt. of I in the arterial vessels. During urethan narcosis, when the central nervous system was depressed, the injection of I increased the content of I in the arterial walls, whereas dehydroadrenaline under these conditions did not increase the amt. of I. Injection of I and dehydroadrenaline increased the amt. of I in the suprarenals. During urethan narcosis, the injection of I increased the content of I in the adrenals. Dehydroadrenaline did not bring about an increase of I in the ad-

renals during the depression of the central nervous system. The central nervous system thus affects the fixation of adrenaline in the vascular walls and the reduction of dehydroadrenaline to adrenaline in the adrenals. H. Priestley

CA 11-H

**Effect of depressing the central nervous system on the adrenaline and dehydroadrenaline content of rabbit muscle.**  
M. L. Butom (Ukraine Inst. Exptl. Endocrinol., Kharkov). *Prishkivnyy* 17, 297-71(1952); cf. C.I. 44, 11844.---The right and left rabbit hind leg muscles of the same animal

contain almost the same amt. of adrenaline (I) and dehydroadrenaline (II), although the variation in different animal is considerable (I 0.10-2.1  $\gamma$ /g. tissue; II 0.0-0.32  $\gamma$ /g. tissue). When one of the legs is irritated by an elec. current, II in the other (control) leg disappears; but the irritated leg, in most cases, contains II. During the irritation of both legs, II is found in each leg. When the central nervous system is depressed by urethan narcosis, both I and II, in most cases, disappear from the control leg as well as from the irritated leg. Under these conditions, I is either oxidized or becomes attached to tissue proteins. H. Priestley

**Acylamides.** Paulin Rayet (Service de recherches S.B.A.-P.C.M., Renory-Ougrée, Belg.). *Ind. chim. belge* 17, 478-80(1952)(in French).---A review of the pharmacodynamic effects in dogs and rabbits of acylamides and particularly of the following salicylamides: *N*-acetyl-, *O*-acetyl-, and *N,O*-diacetyl-. The following compds. were prepd. by conventional methods: benzamides: *N*-acetyl-*m*-hydroxy-, m. 102.5-3°; *N*-acetyl-*p*-hydroxy-, m. 125°; *N*-acetyl-*m*-nitro-, m. 108-9°; and *N*-acetyl-*p*-nitro-, m. 225°; *o*-acetyl-*m*-nitro-, m. 234°; *tr*-acetyl deriv. m. 124-4.5°; gentisylamide, m. 218-18.5°; *tr*-acetyl deriv. m. 142°; gallylamide, m. 230-40°; tetraacetyl deriv. m. 213°; *N*-acetylnicotinamide, m. 110-11°; acetyl-1-naphthylacetamide, m. 150-60°; and methyl(acetyl)-1-naphthylacetamide, m. 117.5-10°. 0 references.  
Rip G. Rice

UTEVSKIY, A.N.; BUTOM, M.L.

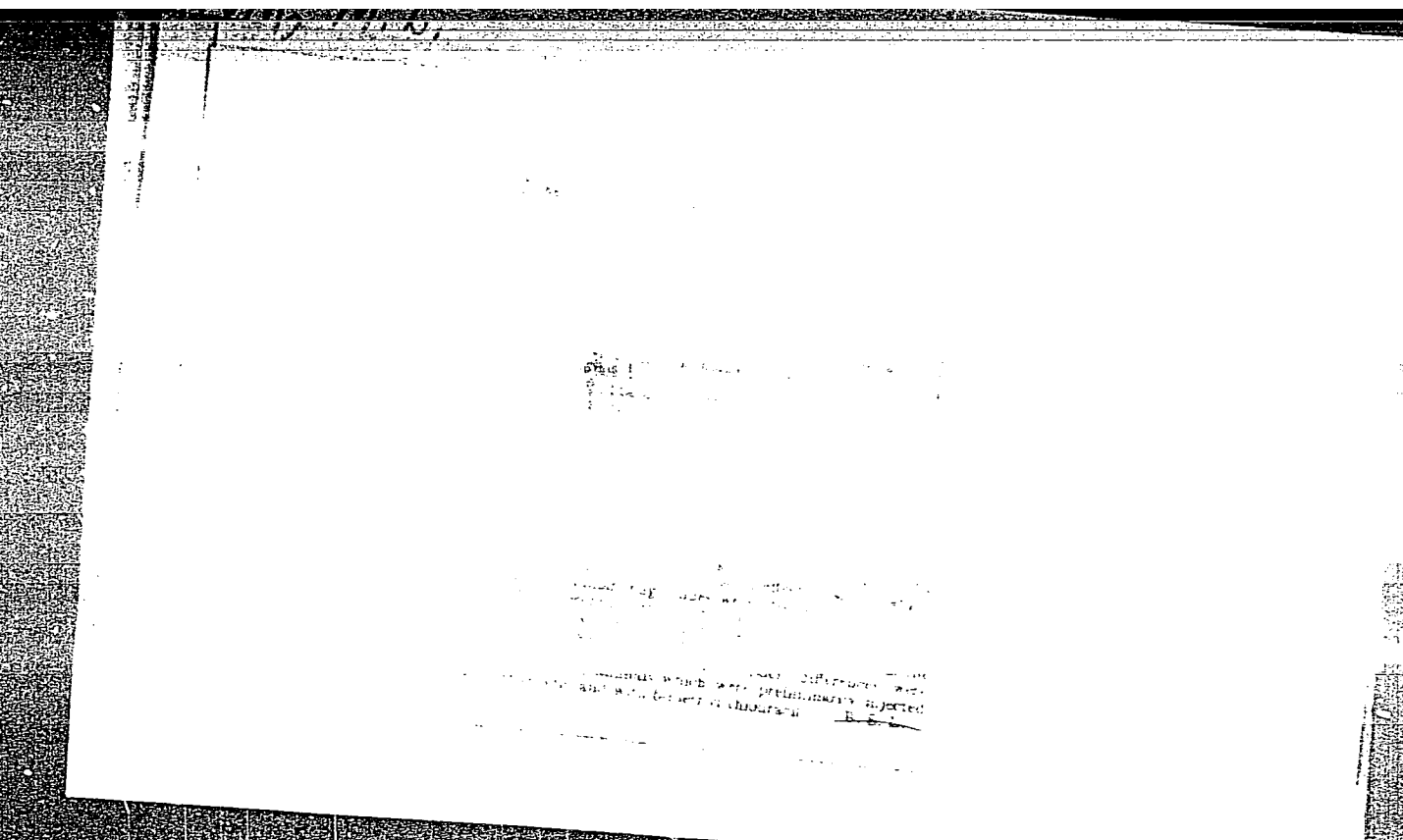
Effect of the central nervous system on fixation and restoration of  
adrenalin in the vascular wall. Biokhimiia, Moskva 17 nō.2:139-144  
Mar-Apr 1952.  
(CLML 24:5)

1. Ukrainian Institute of Experimental Endocrinology, Khar'kov.

UTEVSKIY, A.M.; BUTOM, M.L.

Influence of excitation of the central nervous system on some metabolic processes of adrenaline in the walls of blood vessels and in the adrenals.  
Biokhmiya 18, 195-200 '53.  
(CA 47 no.18:9502 '53) (MIRA 6:4)

1. Inst. Exptl. Endocrinol., Kharkov.



BUTOM, M.L.; VARTAPETOV, B.A.

Changes in the amount of adrenaline and adrenaline like substances in tissues of castrated rabbits during various functional states of the central nervous system. Biokhimiia 22 no.5:807-812 S-O '57. (MIRA 11:1)

1. Biokhimicheskiy i fiziologicheskii otdel' Ukrain'skogo instituta eksperimental'noy endokrinologii, Khar'kov.  
(CENTRAL NERVOUS SYSTEM, physiology,  
eff. of post-castration higher nervous activity on  
epinephrine & epinephrine-like substances metab. (Rus))  
(CASTRATION, effects,  
higher nervous activity, eff. of post-castration changes  
on epinephrine & epinephrine-like substances metab. (Rus))  
(EPINEPHRINE, metabolism,  
eff. of post-castration higher nervous activity (Rus))

UTEVSKIY, A.M.; BARTS, M.P.; BUTOM, M.L.; GAYSINSKAYA, M.Yu.; OSINSKAYA, V.O.;  
TSUKERNIK, A.V.; EYDEL'MAN, M.M.

Research on neural regulation of the metabolism of adrenaline and  
adrenalinelike substances. Sbor. nauch. trud. Ukr. nauch.-issl.  
inst. eksper. endok. 15:62-72 '59. (MIRA 14:11)  
(ADRENALINE IN THE BODY) (NERVOUS SYSTEM)

BUTOMA, B.

Shipbuilders in wartime and in peacetime labor. Sudostroenie  
31 no.5:3-6 My '65. (MIRA 18:8)

26134-66

ACC NR: AP6007622

EWI(a)/EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6 .IT

SOURCE CODE: UR/0229/66/000/001/0003/0008

AUTHOR: Butoma, B. (Minister of the ship building industry SSSR)

ORG: none

TITLE: Soviet shipbuilding prospects for 1966

SOURCE: Sudostroyeniye, no. 1, 1966, 3-8

TOPIC TAGS: marine engineering, shipbuilding engineering, cargo ship, fishing ship, hydrofoil, gas turbine, diesel engine, icebreaker

ABSTRACT: In outlining 1966 shipbuilding prospects to workers of the ship-

building industry, B. Butoma discussed the significance of the new Ministry of the Shipbuilding Industry and progress being made in Soviet shipbuilding. Established in the beginning of 1965, this Ministry centralizes the control of the shipbuilding facilities of the country, including yards, planning and design bureaus, and scientific-research institutes. The advantages of this system include the consolidation of technical management, the efficient utilization of engineering personnel, and the possibility of applying recent scientific and technological developments in the most effective way.

Turning to a discussion of Soviet shipbuilding activity, Butoma states that vessels of the following types are being built: "Vytegrales-" type lumber vessels; "Poltava-" and "Bezhitsa-" type dry-cargo vessels;

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ACC NR: AP6007622

"Sofiya-" type tankers; and "Andrey Zakharov-" type factory ships. Among the various types of ships being built for export are: "Mayak-" type factory ships; "Mayakovskiy-" type fishing trawlers; "Tavriya-" type refrigerator ships; "Raketa-", "Kometa-", and "Volga-" type hydrofoil vessels and "Baskunchak-" type tankers. Also included in the shipbuilding program are "Feodosiya-" (dw > 15,000 tons) and the "Riga-" (dw = 12,500 tons: 17 knots) type dry-cargo vessels, which will be equipped with diesel engines and which will have much of their operation automated. This full automation, now in the design stage, will signal the beginning of the automation of all diesel vessels. The first large Soviet gas-turbine-powered vessel "Parizhskaya Kommuna" has been completed. Experience gained in the operation of this vessel will determine whether gas-turbines will be utilized in large vessels.

Discussing future developments, Butoma indicates that a large 25,000—30,000-hp dry-cargo vessel, for speeds of 23—25-knots, will be designed. It is planned to equip the screw propellers of the "Kaliningrad-" (7500 tons dw) and "Kerch-" (4500 tons dw) type freighters with nozzles, for operation in northern ice-covered waters. A serious problem is said to be the construction of 70,000—80,000-ton super-tankers. The "Kazbek-" type tankers will be replaced by new "Vladivostok-" type tankers equipped with automated 10,000-hp diesel engines. New atomic ice-

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L 26134-66

ACC NR: AP6007622

breakers, although smaller than the icebreaker "Lenin," will possess improved operating characteristics. Turning to a discussion of high-speed hydrofoils, Butoma indicates that the main problems to be solved are how to improve their seaworthiness and economy. To accomplish this, it will be necessary to equip them with an automated stabilization system for operating in swells, light gas turbines, and to make wide use of newly developed materials in their construction. Orig. art. has: 1 figure.  
[ATD PRESS: 4228-F]

SUB CODE: 13 / SUBM DATE: none

Card 3/32

L 04693-67 TGH/JT

ACC NR: AP6023569

(N)

SOURCE CODE: UR/0401/66/000/007/0006/0007

AUTHOR: Butoma, B. (Hero of socialistic works, Minister)

ORG: Ministry of the Shipbuilding Industry (Ministerstvo sudostroitel'noy promyshlennosti SSSR)

TITLE: The contribution of shipbuilders

SOURCE: Starshina-serzhant, no. 7, 1966, 6-7

TOPIC TAGS: cargo ship, diesel engine, marine engine

ABSTRACT: According to B. Butoma, Minister of the USSR Shipbuilding Industry, the current five-year plan (1966—1970) for the development of the national economy includes the augmentation of the merchant fleet with multipurpose and specialized ships and an increase in the total tonnage of the transport fleet by approximately 1.5 times. As in the past, much attention will be paid to supplementing the oil tanker fleet. Concurrent with the uninterrupted building of 50,000-dwt Sofia-type tankers, the building of the larger Moskva-type tankers, which have a nearly 1.5 times greater capacity, has been considered. Kazbek-type tankers, of ~12,000 dwt and having a speed of 12 knots, will be replaced by new 15,000-dwt tankers of the Vladivostok-type. The keels have been laid for new 15,000-dwt Feodosiya-type tankers, which have a speed exceeding 17 knots. These new ships are equipped with diesel engines.

Card 1/2

L 04693-67

ACC NR: AP6023569

The employment of gas-turbine power plants will depend on the results of tests now under way with the 16,000-dwt dry-cargo freighter Parizhskaya Kommuna, which has a 13,000-hp power plant. In the future steam-turbine power plants will continue to be used on large, high-speed ships. Improved steam turbines may be installed on a high-speed (22—24-knot) 10,000-dwt dry-cargo liner now being designed.

Navigation on the Volga River-Baltic Sea waterway will require so-called "composite" ships, suitable for both river and sea operations. The design of such vessels is progressing rapidly. New atomic Arktika-type icebreakers will be more powerful than any existing icebreaker, but they will have a smaller displacement. Hundreds of hydrofoils of the Raketa-, Meteor-, Sputnik-, Chayka-, and Burevestnik-type, as well as hydrofoils for the coastal maritime service, will be built. The large series of Mayakovskiy- and Mayak-type trawlers now under construction will be significantly modernized. The world's largest factory ship, the 40,000-ton Vostok, which will operate independently in far waters, will be provided with 14 relatively small but powerful trawlers. Orig. art. has: 1 figure.  
[ATD PRESS: 5079-F]

SUB CODE: 13 / SUBM DATE: none

Card 2/2 fv

BITUM, B., deputat Verkhovnoho Soveta SSSR.

Shipbuilding in Japan. Odesktsenie 30.10.19:00:00 - 0:00

(000 17:00)

BUTOMA, B.

Objectives of the Russian shipbuilding industry. Sudostroenie 29  
no.1:1-2:Ja '43. (MIRA 16:3)

1. Predsedatel' Gosudarstvennogo komiteta Soveta Ministrov SSSR  
po sudostroyeniyu.

(Shipbuilding)

BUTOMA, B.Ye.; YEGOROV, M.Ye.; DEREVYANKO, Yu.G.; KHABAKHPASHEV, A.A.;  
BAKAYEV, V.G.; ISHKOV, A.A.; KOLESNICHENKO, N.S.; KAMENTSEV, V.M.;  
GORSHKOV, S.G.; KASATONOV, M.A.; ISHCHENKOV, N.V.; AFANAS'YEV, S.A.;  
TITOV, G.A.; LARIONOV, M.F.

Boris Evgen'evich Klopotov; obituary. Sudostroenie 30  
no.11:81 '64. (MIRA 18:3)

BUTOMA, B.Ye.; SOKOLOV, P.A.; BALAYEV, D.N.; SERGEYEV, N.M.; SHUMSKIY, K.A.;  
 TYAPKIN, M.Ya.; SMIRNOV, V.A.; PIROGOV, N.I.; FEDOROV, N.A.;  
 GOLYASHKIN, G.S.; KUZ'MIN, A.P.; AKULINICHEV, V.P. brigadir; GORBENKO,  
 Ye.M.; BYSTREVSIIY, L.M., inzh.; STEPANOV, P.S., brigadir; Ua, I.S.,  
 brigadir-sudosborschik, deputat Varkhovnogo Soveta SSSR; USTINOV,  
 P.D., slesar'-sborschik; FINOGENOVA, N.Ya., tokar'; LERNER, M.;  
 ALEKSEYEV, R.Ye.; SIVUKHIN, K., starshiy master; OSTAF'YEV, A.I.;  
 TROFIMOV, B.A., inzh.; KOVRYZHIN, V.F., inzh.; MOISEYEV, A.A., prof.;  
 GOLUBEV, N.V.; MOGILEVICH, V.I.; ANDRYUTIN, V.I.; ANDRIYEVSKIY, M.I.;  
 MATSKEVICH, V.D., dots.

Shipbuilders prepare for the 21st Extraordinary Congress of the CPSU.  
 Sudostroenie 25 no.1:1-25 Ja '59. (MIRA 12:3)

1. Predsedatel' Gosudarstvennogo komiteta Soveta Ministrov SSSR po sudostroyeniyu, ministr SSSR (for Butoma).
2. Nachal'nik upravleniya sudostroitel'noy promyshlennosti Lensovnarkhoza (for Sokolov).
3. Direktor Baltiyskogo sudostroitel'nogo zavoda im. S.Ordzhonikidze (for Balayev).
4. Nachal'niki tsekhov Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Sergeyev, Shumskiy).
5. Nachal'nik mekhanicheskogo tsekha Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Tyapkin).

(Continued on next card)

BUTOMA, B.Ye.---(continued) Card 2.

6. Brigada kommunisticheskogo truda Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Smirnov). 7. Glavnyy inzhener Admiralteyskogo sudostroitel'nogo zavoda, Leningrad (for Pirogov). 8. Glavnyy inzhener sudostroitel'nogo zavoda im. A.A. Zhdanova (for Fedorov). 9. Nachal'nik elektrodного tsekha Sudostroitel'nogo zavoda im. A.A. Zhdanova (for Golyashkin). 10. Nachal'nik tsekha kommunisticheskogo truda sudostroitel'nogo zavoda im. A.A. Zhdanova (for Kuz'min). 11. Malyarnyy tsakh sudostroitel'nogo zavoda im. A.A. Zhdanova (for Akulinichev). 12. Glavnyy inzhener Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Nosenko (for Gorbenko) 13. Nikolayevskiy sudostroitel'nyy zavod im. I.I. Nosenko (for Bystrevskiy, Us, Ustinov, Finogenova). 14. Slesarno-sborochnaya brigada Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Nosenko (for Stepanov). 15. Zamestitel'nachal'nika konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Lerner). 16. Glavnyy konstruktor konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Aleksyev). 17. Sudostroitel'nyy zavod "Krasnoye Sormovo" (for Sivukhin). 18. Direktor sudostroitel'nogo zavoda "Leninskaya kuznitsa" (for Ostaf'yev). 19. Sekretar' partkoma Tsentral'nogo nauchno-issledovatel'skogo instituta (for Trofimov). (Continued on next card)

BUTOMA, B.Ye.--(continued) Card 3.

20. Predsedatel' Leningradskogo oblastnogo pravleniya Nauchno-tekhnicheskogo otdela sudostroitel'noy promyshlennosti (for Moiseyev). 21. Glavnyye inzheneriy Konstruktorskogo byuro (for Golubev, Andryutin).
  22. Glavnyy konstruktor Konstruktorskogo byuro (for Mogilevich).
  23. Nachal'nik Tsentral'nogo tekhniko-konstruktorskogo byuro (for Andriyevskiy). 24. Zamestitel' direktora Leningradskogo korablistroitel'nogo instituta po uchebnoy chasti (for Matskevich).
- (Shipbuilding)

BUTOMA, N.V., mayor med. sluzhby; SHCHERBAKOV, N.I., podpolkovnik med. sluzhby

Use of pentoxyl and sodium nucleinate in post irradiation leukopenia.  
Voen.-med. zhur no.5:12-14 My '58 (MIRA 12:7)

(URACIL, related compounds,

5-hydroxymethyl-4-methyluracil, eff. on post-irradiation  
leukopenia (Rus))

(LEUKOCYTE COUNT,

leukopenia, post-irradiation, eff. of 5-hydroxymethyl-4-me-  
thyluracil & sodium nucleinate (Rus))

(RADIATIONS, effects

leukopenia, eff. of 5-hydroxymethyl-5-methyluracil &  
sodium nucleinate (Rus))

(NUCLEIC ACID, effects,

sodium nucleinate on leukopenia induced with radiations (Rus))



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PROCESSES AND PROPERTIES INDEX																										PROCESSES AND PROPERTIES INDEX																																																																																																																																																																																					
<p><b>*The Relation of Cold-Working and Annealing to the Mechanical Properties and Structure of Bimetal: Iron-Tombak.</b> D. G. Butomo and S. A. Kushkevich (<i>Metallurgy (Metallurgiya)</i>, 1963, (7), 75-82).—[In Russian.] Methods of obtaining the best working properties of the bimetal iron-Tombak are described, with special reference to the effect of deformation at 10°-300° C. and subsequent annealing for 1-3 hrs. at 600°-700° C. on the mechanical properties and microstructure; 650° C. is the best annealing temperature. The mechanical properties are determined by the size of ferrite grains. A reduction of not less than 30% by cold-working is desirable.—N. A.</p>																																																																																																																																																																																																															
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\*Phenomena of Fracture of Two-Phase Alloys on Deformation. D. G. Butomo, N. I. Zedlin, and S. A. Kushakevitch (*Metalurgy (Metallurgist)*, 1934, (9), 61-63).—[In Russian.] The mechanism of the deformation of zinc containing 0.14 and 1.15% iron and of  $\alpha + \beta$ -brass indicates that the less plastic phase is fractured first, fracture being preceded by the formation of lines of slip. The development of fracture is definitely connected with the proportion of the less plastic phase, the degree of deformation, and the ratio between the plasticities of the two phases. Fracture of the plastic phase is caused by the instantaneous increase in stress at the moment of fracture of the inclusions of the brittle phase.—N. A.

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

SECOND HALF ONLY ONE  
BELLSTONE  
BELLSTONE ON ONE ALL

\*Study of Special "Nickel Silvers." D. G. Butenko (*Metallurg (Metallurgy)*, 1936, (4), 76-87).—[In Russian.] In the manufacture of alloys containing nickel 15-16, aluminium 2.3-3, iron 1-0, and manganese 1-0%, the nickel and aluminium are added as alloys with copper, and the alloy is cast at 1300°-1350° C. and forged at 950°-990° C. after a preliminary anneal for 2½-3 hrs. The optimum mechanical properties may be obtained either by slow cooling after forging or by quenching after forging at 750°-800° C. and then annealing at 600° C. The alloy has a tensile strength of 80 kg./mm.<sup>2</sup>, a limit of proportionality of 45 kg./mm.<sup>2</sup>, and an elongation of 10%. After quenching the tensile strength is 40 kg./mm.<sup>2</sup> and the elongation 45%.—N. A.

1ST AND 2ND ORDERS		PROCESSING AND PROPERTY INDEX		3RD AND 4TH ORDERS																																																																																																						
<p><i>*Beryllium Bronze. D. G. Butenko (Metallurg (Metallurgist), 1935, (5), 114-133).—[In Russian.] The higher iron and aluminum content of Russian beryllium does not affect the working of alloys of copper with up to 2.5% beryllium provided that they are quenched from 800° C. before cold-working. Quenching from 650° to 600° C. gives an alloy which may be lightly worked. Complete structural homogeneity is attained only by repetition of cold-working operations and anneals. The optimum mechanical properties in the pure beryllium alloy are obtained by ageing at 200°-250° C., and in the alloy containing iron at 300°-350° C. The presence of iron increases the elongation of the quenched alloy and increases the hardness and yield-point of the aged alloy. Cold-working after quenching decreases the elongation after ageing.—N. A.</i></p>																																																																																																										
A.S.A. METALLURGICAL LITERATURE CLASSIFICATION																																																																																																										
<table border="1"> <thead> <tr> <th>GROUP</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> <th>17</th> <th>18</th> <th>19</th> <th>20</th> <th>21</th> <th>22</th> <th>23</th> <th>24</th> <th>25</th> <th>26</th> <th>27</th> <th>28</th> <th>29</th> <th>30</th> <th>31</th> <th>32</th> <th>33</th> <th>34</th> <th>35</th> <th>36</th> <th>37</th> <th>38</th> <th>39</th> <th>40</th> <th>41</th> <th>42</th> <th>43</th> <th>44</th> <th>45</th> <th>46</th> <th>47</th> <th>48</th> <th>49</th> <th>50</th> <th>51</th> <th>52</th> <th>53</th> <th>54</th> <th>55</th> <th>56</th> <th>57</th> <th>58</th> <th>59</th> <th>60</th> <th>61</th> <th>62</th> <th>63</th> <th>64</th> <th>65</th> <th>66</th> <th>67</th> <th>68</th> <th>69</th> <th>70</th> <th>71</th> <th>72</th> <th>73</th> <th>74</th> <th>75</th> <th>76</th> <th>77</th> <th>78</th> <th>79</th> <th>80</th> <th>81</th> <th>82</th> <th>83</th> <th>84</th> <th>85</th> <th>86</th> <th>87</th> <th>88</th> <th>89</th> <th>90</th> <th>91</th> <th>92</th> <th>93</th> <th>94</th> <th>95</th> <th>96</th> <th>97</th> <th>98</th> <th>99</th> <th>100</th> </tr> </thead> </table>						GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100						

ALPHABETIC INDEX																										NUMERIC INDEX																									
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9																
<p>Investigation of special nickel silvers. D. G. Butomo. Metallurg 10, No. 4, 76-87 (1965). Alloys containing Cu 1-3, Ni 14-5 and Al 1.5-3% were prepd., heat-treated and examd. for microstructure and mech. properties. When quenched from 800° to 700° these alloys form solid solns. and are soft and ductile. After annealing the quenched specimens at 400° they become hard because of the pptn. of an Al compd. The annealed specimens had a tensile strength of 20 kg./sq. mm. and an elongation of 10%.</p> <p>H. W. Rathmann</p>																																																			
<p>AS 514 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p><i>*The Possibility of Decreasing the Beryllium Content of Beryllium Bronzes.</i>  D. G. Butenko (<i>Metallurg (Metallurgy)</i>, 1937, (6), 110-111).—[In Russian.]  From a consideration of the hardness-composition curves of beryllium-copper alloys, B. concludes that beryllium bronze with 2% beryllium can be substituted for the usual alloy with 2.5% beryllium. For a number of different applications the beryllium content can even be reduced to 1.5%.—N. A.</p>																																																			
<p>ASH-ILA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
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COMMON ELEMENTS										COMMON VARIABLE INDEX									
1ST AND 2ND EDITIONS										3RD AND 4TH EDITIONS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>*Extrusion of Beryllium Bronze. D. G. Butenko and V. V. Zholobov (Metallurg (Metallurgist), 1967, (7), 98-113).—[In Russian.] A study was made of the extrusion of rods and tubes of beryllium bronze (beryllium 1-94-3-10, iron 0-13-0-23, aluminium 0-01-0-07%, remainder copper) in horizontal and vertical presses. In a horizontal press, alloys containing &gt; 2.3% beryllium can be extruded at 730°-780° C., at the rate of 2-4 cm./second. With 2% beryllium, the temperature may be decreased to 700° C. Tubes can be extruded from pierced billets containing 2.5-3% beryllium, at 720°-760° C., at the rate of 5-6 cm./second, the minimum wall-thickness being 5 mm. In vertical presses, tube extrusion can be carried out at 700°-720° C.; the minimum wall thickness can be decreased to 2.5 mm. For rod extrusion, a temperature of 750° C. is recommended. The mechanical properties of the products are given; they were obtained on specimens quenched from 800° C. after heating or 2 hrs. and annealed at 250°, 300°, and 350° C. for 3 hrs. The microstructures of the specimens under different conditions were also studied. The upper limit of the beryllium content admissible for the process investigated is 2.3%.—N. A.</i></p>																			
ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION																			
1ST AND 2ND EDITIONS										3RD AND 4TH EDITIONS									
1ST AND 2ND EDITIONS										3RD AND 4TH EDITIONS									

CA 9

PROCESSES AND PROPERTIES INDEX

The possibility of reducing the beryllium content of beryllium bronzes D. G. Butano, *Metallog* 12, No 6, 110-11 (1947); *Trans. AIME* 163, 17-21, 1947. The hardness of annealed Cu-Be alloys reaches its max. at a Be content of only 2%, Brinell hardness about 360. A rapid increase in hardness takes place between a Be content of 1 and 1.5%. A Be content of 2% rather than the usual 2.5% therefore appears to be sufficient for many purposes even if 1.5% appears to be sufficient with a Brinell hardness about 30-40 units lower. In addition to heat-treatment, any other type of preliminary treatment changes the hardness of the alloy. Only specimens quenched in water from 800° show a hardness under 150. The greatest hardness is attained only by annealing.

M. G. Moore

ASM-AIA METALLURGICAL LITERATURE CLASSIFICATION

BUTOMO, D.G.; ZEDIN, N.I.

~~Cracks in rods of the alloy Kunial A. TSvet. met. 26 no.2:58-62~~  
Mr-Ap. '53. (MLRA 10:9)

1. Zavod "Krasnyy Vyborzhets."  
(Copper-nickel-aluminum alloys)

*Butomo, D.G.*

ALEKSEYEV, N.S.; BELIAYEV, A.P.; BUGAREV, L.A.; BUTOMO, D.G.; VASIL'YEV, Z.V.;  
VERIGIN, V.N.; VOROB'YEV, G.M.; GAYLIT, A.A.; GOL'SHTEYN, P.M.;  
GOKHSHTEYN, M.B.; ZHOLOBOV, V.V.; ZEDIN, N.N.; IVANOV-SKOBLIKOV, N.I.;  
KUTEPOV, Ya.V.; LANDIKHOV, A.D.; MARAYEV, S.Ye.; MILLER, L.Ye.;  
OL'KHOV, N.P.; PERLIN, I.L.; POSTNIKOV, N.N.; ROZOV, M.N.; CHERNYAK, S.N.;  
CHUPRAKOV, V.Ya.; TSENER, Ya.A.

Vladimir Oskarovich Gagen-Torn; obituary. TSvet.met. 27 no.5:67-68  
S-O '54. (MIRA 10:10)

(Gagen-Torn, Vladimir Oskarovich, 1888-1954)

*Butomo, D. G.*

BUTOMO, D.G.; SOLOMINA, P.S.

Effect of the degree of deformation and annealing temperature on the  
anisotropic mechanical properties of copper. TSvet.met. 27 no.6:50-60  
(MIRA 10:10) 1954

(Copper--Testing)

BUTOMO, D.G.; LAVRENT'YEV, V.I.  
~~XXXXXXXXXXXXXXXXXXXX~~

Laboratory of the "Krasnyi vyberzhets" Plant. Zav.lab.21 no.12:  
1403-1409 '55. (MLRA 9:4)  
(Alloys) (Metallurgical laboratories)

BUTOMO, D. G.

AUTHORS: Butomo, D.G., Lazarenko, S.P. and Romu, V.G. 136-7-13/22

TITLE: Production of copper with a low oxygen content. (Poluchen-  
iye medi s nizkim sodержaniyem kisloroda).

PERIODICAL: "Tsvetnyye Metally", 1957, No.7, pp.70-75 (USSR).

ABSTRACT: The present article is based on material obtained by the Central Research Institute of the Ministry of Shipbuilding of the USSR together with the "Krasnyy Vyborzhets" works on the production of copper with an oxygen content  $\leq 0.01\%$ . Copper with such low oxygen contents is not affected adversely by annealing in a reducing atmosphere and can be welded satisfactorily. It was found that contamination of copper with oxygen during the pouring of ingots (the principal contamination-stage) could be avoided with type M3C copper by using vertical, flat, cast-iron ingot moulds without water cooling. Comparative tests were made with this type of mould and also water-cooled moulds with internal dimensions 123 x 670 x 850 mm and 206 x 735 x 1000 mm. In addition to the investigation of the structures and properties of the ingots, their rolling into sheets and the welding of these latter with various electrodes were studied for types M3C and M3 of copper. Welded joints in M3C copper were superior to those in M3.

1/2

2/2      Production of copper with a low oxygen content. (Cont.)  
There are 3 figures and 2 tables.

AVAILABLE: Library of Congress

SOV/136-58-8-13/27

AUTHORS: Butomo, D.G., Zedin, N.I. and Krym, I.A.

TITLE: Investigation of the Influence of Conditions of Rolling and Annealing on the Residual Stresses in Copper  
(Issledovaniye vliyaniya usloviy prokatki i otzhiga na ostatochnyyenapryazheniya v medi).

PERIODICAL: Tsvetnyye Metally, 1958, Nr.8, pp.57-60 (USSR)

ABSTRACT: In the course of rolling copper with high degrees of reduction the residual stresses may be eliminated on account of the heat produced in the rolling. Attempts to measure the temperatures produced in rolling having failed to give stable results the authors adopted the indirect method of comparing the extent of residual stresses (lattice deformation) of copper after deformation with large reductions and after annealing. For investigating the influence of rolling factors on the residual stresses two strips were rolled from 3 to 0.5 mm, one in 3 passes with the minimal interval between passes, the other in ten with time for cooling between passes. After each pass specimens were taken for X-ray and metallographic investigation and

Card 1/3

SOV/136-58-8-13/27

Investigation of the Influence of Conditions of Rolling and Annealing on the Residual Stresses in Copper.

determination of mechanical properties, including micro-hardness (Table 1). The residual stresses were found from the intensity of the (331) line (Fig.1). The details of the X-ray method used are given by S.O. Tsobkallo and V.V. Latsh in "Trudy Leningradskogo Politekhnikheskogo instituta im. M.I. Kalinina" 1955, Nr.180. Yu.P. Korolev participated in this work. The copper used contained 99.92% Cu, 0.002% Ni, 0.003% Pb, 0.002% Fe, traces of As, Sb, P, 0.07% O<sub>2</sub>. To find what annealing conditions were equivalent to rolling with large reductions per pass as regards removal of residual stresses, a similar investigation was made of specimens rolled with large and with small reductions per pass and annealed for one hour at 100, 200, 250, 300, 350 and 400°C (Fig.2). It was found that with large reductions the structure-modifying effect of the heat evolved is equal to that of annealing at 100°C. This is one of the reasons for the ability of copper to be rolled with large reductions without intermediate annealing. With small reductions the residual stresses continually grow with

Card 2/3

SOV/136-66-8-13/27

Investigation of the Influence of Conditions of Rolling and Annealing  
on the Residual Stresses in Copper.

increasing deformation. There are 2 figures and 2 tables.

1. Copper--Processing
2. Copper--Heat treatment
3. Rolling mills
- Performance
4. Stress analysis

Card 3/3

SOV/120-58-2-5/57

AUTHORS: Protodopov, Kh. V., Arslanov, Kh. A., Butomo, S. V. and Timofeyeva, T. V.

TITLE: New Liquid Scintillators (Novyye zhidkiye stsintillyatory)

PERIODICAL: Priory i Tekhnika Eksperimenta, 1958, Nr 2, pp 24-28 (USSR)

ABSTRACT: Methyl anthranilate scintillators having a high efficiency and which can be used at low temperatures have been studied by the present authors and results of experiments with these scintillators are now reported. The scintillator efficiency was found to increase considerably when naphthalene was introduced into a toluene solution of methyl anthranilate. The change in the efficiency of scintillators on removal of oxygen was found to depend on whether naphthalene was present or not. Particularly noticeable is the increase in the efficiency of terphenyl scintillators containing naphthalene when oxygen is removed from them by means of  $\text{CO}_2$ . Equally interesting is the increase in the efficiency when small quantities of methanol are added. The effect of the removal of oxygen is illustrated by the following example. After the removal of oxygen a solution of 2.5 g/l of methyl anthranilate containing 3% of methanol, 15% of naphthalene, and 82% of toluene had an efficiency greater by a factor of 1.26

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New Liquid Scintillators.

SOV/120-53-2-5/37

compared with a 5 g/l solution of terphenyl in toluene. The characteristics of the various other liquids tried are shown in 4 figures and 1 table. I. Ye. Starik and A.N. Pisarevskiy are thanked for their help. There are 7 references of which 5 are English and 2 are Soviet.

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: February 28, 1957.

Card 2/2

1. Phosphors--Properties

SOV/136-59-4-11/24

**AUTHORS:** Shevakin, Yu.F., Candidate of Technical Sciences,  
Rytikov, A.M., Sharov, I.Ye., Butomo, D.G., Koshurin, A.V.,  
Sergeyeva, Z.L., Engineers

**TITLE:** Comparison of the Efficiency of Tube Production from  
Non-Ferrous Metals and their Alloys by Cold-Rolling and  
by Drawing Methods (Ekonomicheskaya effektivnost'  
proizvodstva trub iz tsvetnykh metallov i splavov  
kholodnoy prokatkoy po sravneniyu s volocheniym)

**PERIODICAL:** Tsvetnyye metally, 1959, Nr 4, pp 57-63 (USSR)

**ABSTRACT:** Opinion was divided on the relative merits of the  
different methods of tube production, therefore the  
present investigation was carried out. All sizes of  
tubes were tried by the two methods. It was shown that  
output from cold-rolling was 10-25% higher than that from  
drawing (table 1). The machine-hours and man-hours for  
cold-rolling were shorter than for drawing (table 2).  
Table 3 shows the increase in production by cold-rolling  
with better equipment. By cold-rolling with modern  
equipment the machine-hours and man-hours could be cut by  
two in the production of copper tube. The economy in

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SOV/136-59-4-11/24

Comparison of the Efficiency of Tube Production from Non-Ferrous Metals and their Alloys by Cold-Rolling and by Drawing Methods

this case was 224 roubles per ton and in other cases varied from 165 to 374 roubles per ton. The number of operations in the copper tube production was reduced from 27 to 18. The production of condenser tubes in L68 (brass) alloy has been increased from 70-90 to 180-200 m/hr. An advantage of cold-rolling is that deformation can be up to 94% of the initial section. It also allows the manufacture of tubes from L68 without an intermediate temper, giving a tensile strength of 75-77 kg/mm<sup>2</sup> and an elongation of 2.5-3%. For materials which are difficult to deform (e.g. some Ti alloys) cold-rolling is a superior method of tube production as the machinery is cheaper and the number of operations is reduced. At present, work is in hand for a cold-rolling mill which will produce two or three tubes simultaneously.

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SOV/136-59-4-11/24

Comparison of the Efficiency of Tube Production from Non-Ferrous Metals and their Alloys by Cold-Rolling and by Drawing Methods

There are 5 tables and 4 references, 3 of which are Soviet and 1 German.

ASSOCIATIONS. Institut stali; Zavod "Krasnyy Vyborzhets"; Kol'chuginskiy zavod po obrabotke tsvetnykh metallov i splavov (Steel Institute; "Krasnyy Vyborzhets" Works and Kol'chugino Works for Processing of Non-Ferrous Metals and Alloys)

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SOV/136-59-6-16/24

AUTHORS: Butomo, D.G., Ginsburg, N.G., Zedin, N.I. and  
Sergeyev, L.N.

TITLE: Cracking of Aluminium Bronze During Tests in an  
Ammonia Atmosphere (Rastreskivaniye alyuminiyevoy  
bronzy pri ispytanii v ammiachnoy atmosfere)

PERIODICAL: Tsvetnyye metally, 1959, Nr 6, pp 84-85 (USSR)

ABSTRACT: Season cracking of brass in ammonia is due to preferential attack of zinc by  $\text{NH}_3$ . Practically no data are available on the possibility of failure of aluminium bronze products by the same method. However, some investigators note that aluminium bronze is inclined to crack as a result of corrosion in the presence of internal stresses (Ref 3). Aluminium bronze is comparable with brass both in structure and in behaviour in ammonia atmosphere. Aluminium, like zinc, must displace copper from its ammoniate solution. Thus, it can be concluded that stressed aluminium bronze products will crack in an ammonia atmosphere in the same way as brass. This assumption was verified with tubular specimens made from the alloy BrA5 containing 4.67% Al and

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SOV/136-59-6-16/24

Cracking of Aluminium Bronze During Tests in an Ammonia Atmosphere

94.92% Cu. Tests were carried out by keeping the specimens, which had been degreased and etched, in an exsiccator, the bottom of which was covered with a 20% ammonia solution, for 24 hours. After the tests, transverse cracks formed on the tube surfaces, which are characteristic of residual tensile stresses along the rolling direction of the tube (Fig 1). Even more convincing were the results of experiments with elastically deformed loops made from a strip of BrA5 alloy, 0.7 mm thick. From twenty specimens cut out of this strip, ten were annealed at 600°C for one hour, the other ten were tested in the work-hardened condition. Tests were carried out for 24 and 72 hours. After 24 hours, 50% of the annealed loops and 90% of the work-hardened ones had failed. After 72 hours, all the loops failed. The microstructure of the specimens which had failed in the ammonia tests was studied (Fig 2a and b). As can be seen, the propagation of cracks in both cases

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Cracking of Aluminium Bronze During Tests in an Ammonia  
Atmosphere

SOV/136-59-6-16/24

is not along the grain boundaries. In this behaviour the alloy BrA5 differs from brass, in which failure is intercrystalline, particularly if the alloy is in the annealed condition. Experiments were carried out in which the chemical composition of the corrosion products of the tubes of the BrA5 alloy was analysed after ammonia tests. The results prove that selective solution of aluminium occurs during corrosion of the stressed BrA5 alloy, similar to the selective solution of zinc in brass. It is concluded that, in general, stressed articles made of copper alloys in which the alloying elements are capable of displacing copper from its ammoniate solutions and forming solid solutions with copper, will fail when exposed to ammonia atmospheres if the concentration of the solid solution and the magnitude of the tensile stresses are sufficiently great. There are

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SOV/136-59-6-16/24

Cracking of Aluminium Bronze During Tests in an Ammonia  
Atmosphere

2 figures and 3 references, 2 of which are Soviet and  
1 English.

Card 4/4

BELOV, N.Ya.; ASSONOV, A.D.; CHIZHIK, A.I.; ZAMOTAYEV, S.P.; BUTOMO, D.G.;  
SERGEYEV, L.N.; rukovoditel' issledovatel'skoy gruppy; MASUROVA, A.I.;  
SHUBIN, G.N.; NOVIK, A.A.; PODSHIVALOV, R.N.; ALEKSO, A.I.; KUZ'MINA,  
L.I.; KORF, D.M.; KOZACHENKO, N.S.

Articles and suggestions of supervisors of central industrial  
laboratories. Zav. lab. 25 no.1:5-22 '59. (MIRA 12:1)

1. Nachal'nik TSentral'noy zavodskoy laboratorii Kirovskogo  
mashinostroitel'nogo zavoda (for Belov). 2. Glavnyy metallurg  
Avtozavoda imeni Likhacheva (for Assonov). 3. Nachal'nik TSen-  
tral'noy zavodskoy laboratorii Leningradskogo metallicheskogo  
zavoda imeni Stalina (for Chizhik). 4. Nachal'nik TSentral'noy  
zavodskoy laboratorii Uralmashzavoda, g. Sverdlovsk (for Zamotayev).  
5. Nachal'nik TSentral'noy laboratorii zavoda "Krasnyy Vyborzhets"  
(for Butomo). 6. Laboratoriya zavoda "Krasnyy Vyborzhets" (for Sergeyev).  
7. Nachal'nik khimicheskoy laboratorii metallurgicheskogo zavoda imeni  
Petrovskogo (for Masurova). 8. Nachal'nik TSentral'noy laboratorii Verkh-  
Isetskogo metallurgicheskogo zavoda (for Shubin). 9. Zamestitel' nachal'-  
nika TSentral'noy zavodskoy laboratorii zavoda imeni Malysheva, g.  
Khar'kov (for Novik). 10. Zamestitel' nachal'nika TSentral'noy zavodskoy  
laboratorii Sverdlovskogo turbomotornogo zavoda (for Podshivalov).  
11. Nachal'nik eksperimental'nogo otdela Spetsial'nogo konstruk-  
torskogo byuro Sverdlovskogo turbomotornogo zavoda (for Alekso).  
12. Nachal'nik TSentral'noy laboratorii Okhtinskogo khimicheskogo  
kombinata (for Kuz'mina). 13. Nachal'nik TSentral'noy laboratorii zavoda  
"Krasnyy khimik" (for Korf). 14. Nachal'nik TSentral'noy zavodskoy  
laboratorii Kiyevskogo mashinostroitel'nogo zavoda "Bol'shevik" (for  
Kozachenko).

25(0)

AUTHOR:

Butomo, D. G., Chief of the Central  
Laboratory of the Factory "Krasnyy  
Vyborzhets", Sergeyev, L. N., Chief  
of the Research Group

SOV/32-25-1-6/51

TITLE:

Articles and Suggestions of the Directors of the Central  
Factory Laboratories in Connection With the Theses Laid Down  
by Party Member N. S. Khrushchev at the XXI Congress of the  
CPSU "Control Figures of the Development of National Economy  
of the USSR in the Years 1959-1965" (Stat'ki predlozheniya  
rukovoditeley Tsentral'nykh zavodskikh laboratoriy v svyazi s  
tezisami doklada tovarishcha N. S. Khrushcheva na XXI s"yezde  
KPSS "Kontrol'nyye tsifry razvitiya narodnogo khozyaystva  
SSSR na 1959-1965 gg.")

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 11-13 (USSR)

ABSTRACT:

At the end of the year, a "quantometer" DSF-10, an automatic  
36-channel photoelectric spectrograph with a diffraction  
lattice, is to be set up as one of the first in the USSR at  
the above-mentioned factory. Among other tasks, the factory  
is concerned with the aim of extending the utilization range  
of the semicontinuous casting of pieces. The casting of pieces

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Articles and Suggestions of the Directors of the Central Factory Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965"

SOV/32-25-1-6/51

from a number of special bronze types was already introduced and promising results were obtained on casting plane pieces of the OF 6.5-0.15 alloy. Cast pieces of copper containing no oxygen have been produced as well. The factory research group is also concerned with working out new devices, e.g. in the band rolling of plates and special bronze types on the roller frame "Kvarto 375". In the course of the seven-year plan the rolling of thin bands on the new 12-roller frame is to be introduced in the rolling mill and the new roller frame "Kvarto-4250" is to begin operating. A huge induction smelting furnace as well as the smelting in vacuum of special alloys and various new casting methods are to be introduced in the foundry. The compression metal drawing plant will carry out the rolling method for thin-walled pipes by the aid of the new installation, an automatic three-wire drawing roller frame. Also the metal pressing method for making round bars by means

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Articles and Suggestions of the Directors of the  
Central Factory Laboratories in Connection With the  
Theses Laid Down by Party Member N. S. Khrushchev at  
the XXI Congress of the CPSU "Control Figures of the  
Development of National Economy of the USSR in the  
Years 1959-1965"

SOV/32-25-1-6/51

of the mobile sleeve preventing the formation of burrs,  
is to be improved.

ASSOCIATION: Tsentral'naya laboratoriya zavoda "Krasnyy Vyborzhets"  
(Central Laboratory of the Factory "Krasnyy Vyborzhets")

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S/136/60/000/011/009/013  
E193/E483

AUTHORS: Butomo, D.G., Zedin, N.I. and Firkovich, I.A.  
TITLE: Anisotropy of Mechanical Properties of Chromized Bronze  
BrKh 0.5 Strip

PERIODICAL: Tsvetnyye metally, 1960, No.11, pp.65-69

TEXT: The object of the present investigation was to study the relationship between the form in which chromium is present in chromium bronze and the mechanical properties of this alloy after heavy deformation. The experimental alloy (in the form of hot-rolled sheet, 13 mm thick) contained 99.08% Cu, 0.78% Cr (0.27% of which was in solid solution), 0.05% Fe and traces of Ni and Pb. Strips of this material were held for 1 h at 700, 850 and 1000°C, after which half of the specimens were quenched from each of the annealing temperatures and the other half were furnace-cooled to room temperature. Then all the heat-treated specimens (including a sample of the starting, hot-rolled material) were cold-rolled in the direction normal to the direction of hot rolling, the total reduction in thickness attained (without any intermediate annealing) being 95.4%. The cold-worked specimens were then annealed at temperatures ranging from 200 to 900°C, after which they were

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S/136/60/000/011/009/013  
E193/E483

Anisotropy of Mechanical Properties of Chromized Bronze BrKh  
0.5 Strip

subjected to tensile tests (determination of the U.T.S. and elongation in the direction parallel and at 45° to the direction of cold rolling), deep drawing tests, metallographic examination and X-ray diffraction analysis. It was concluded that an increased content of chromium in solid solution, attained by quenching from 1000°C, inhibits the subsequent development of preferred orientation in heavily deformed chromium bronze and improves the mechanical properties of cold-worked and subsequently annealed material. Heavy (95%) deformation of this alloy (preliminarily annealed by heating to 700 to 800°C and furnace-cooled) followed by an annealing treatment, yields material characterized by pronounced recrystallization texture and by inferior mechanical properties. There are 4 figures and 6 Soviet references.

Card 2/2

KOROLEV, Yuriy Petrovich; BUTOMO, Dmitriy Grigor'yevich; BUROVA, Yevgeniya Sergeyevna. Prinimali uchastiye: PODMOSHENSKAYA, S.V.; IKONNIKOVA, G.N.; FROLOVA, R.N.; GRINZAYD, Ye.L. TYUMENEVA, S.T., inzh., red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn.red.

[Rapid spectrum analysis of nonferrous metals with the use of DFS-10 equipment; from practices of the "Krasnyi Vyborshets" Plant in Leningrad] Spektral'nyi ekspres-analiz tsvetnykh metallov na ustanovke DFS-10; iz opyta raboty leningradskogo zavoda "Krasnyi vyborzhets," Leningrad, 1961. 13 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriya: Kontrol' kachestva produktii, no.8).

(MIRA 14:12)

1. Gosudarstvennyi optiko-mekhanicheskii zavod (for Podmoshenskaya, Ikonnikova, Frolova). 2. Leningradskiy politekhnicheskii institut im. M.I. Kalinina (for Grinzayd).

(Leningrad--Metallurgical plants)

(Nonferrous metals--Spectra)

18.1220

2894.8

S/136/61/000/010/002/003

E193/E435

**AUTHORS:** Butomo, D.G., Zedin, N.I. and Suturin, G.I.

TITLE: Development of a method of production of thin chromium bronze (alloy 6pX (BrKh)) sheet with a finely-crystalline structure

PERIODICAL: Tsvetnyye metally, no.10, 1961, 69-76

TEXT: Up till the middle of 1960, heat treated chromium bronze sheet was produced by a method entailing a solution treatment at 980 to 1000°C, work-hardening by cold-rolling and ageing at 450°C. Some batches of material produced in this manner were found to have a coarsely-granular structure which caused frequent intercrystalline cracking during the subsequent forming operations. Hence the present investigation whose object was to determine the effect of various factors on the grain-size of chromium bronze sheet, treated to possess hardness not lower than 120 kg/mm<sup>2</sup>. Three grades of chromium bronze, containing 0.54, 0.66 and 0.79% Cr, were used in the experiments which consisted in measuring hardness (at room temperature and at 600°C), grain-size, electrical conductivity and oxidation resistance of specimens quenched from 800, 850, 900, 950 and 1000°C, deformed by cold-rolling to 40, 50, 60, 70, 80, 90 and 95% reduction.

28948

S/136/61/000/010/002/003

E193/E435

Development of a method ...

60 and 70% reduction in thickness, and aged at 300, 400, 450 and 500°C. The results obtained can be summarized as follows:

1) The grain-size of thermally and mechanically treated chromium bronze depends on its chromium content. Grain growth in alloys containing 0.5 and 0.65% Cr, begins at 850 and 900°C respectively, whereas an alloy with 0.8% Cr retains its finely crystalline structure even at 950°C.

2) The quantity of chromium retained in solid solution was approximately 0.2% irrespective of whether the solution treatment was carried out at 1000, 950 or 900°C.

3) For practical purposes, a separate solution treatment can be replaced by rapid cooling after hot-rolling without a significant decrease in the quantity of chromium retained in solid solution.

This method was used in a large scale trial in which 3 tons of 4 to 5 mm thick sheet was produced. The last hot-rolling operation was finished at 850 to 880°C after which the alloy was quenched from this temperature, 0.2 to 0.24% Cr being retained in solid solution. After cold-rolling (67 to 73% reduction in thickness) and ageing, the metal had the following properties:

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E193/E435

Development of a method ...

UTS - 45 to 49 kg/mm<sup>2</sup>; Brinell hardness - 120 to 148 kg/mm<sup>2</sup>; elongation - 14 to 17%; electrical conductivity - 65 to 71% of the electrical conductivity of copper.

4) Maximum hardness is attained by quenching from 1000°C and ageing at a temperature (400 to 450°C) depending on the preliminary cold deformation and duration of ageing.

5) The higher the degree of deformation after the solution treatment, the higher is the hardness after ageing; at the same time, a high degree of deformation brings about a decrease in the recrystallization (softening) temperature.

6) UTS of chromium bronze at high (600°C) temperatures is independent of the chromium content but decreases with decreasing temperature of the solution treatment. The optimum strength (UTS > 20 kg/mm<sup>2</sup>) at 600°C is attained after a solution treatment at 1000°C followed by cold-rolling to 70% reduction and ageing at 400°C.

7) Electrical conductivity of chromium bronze is independent of its chromium content and varies (in the aged condition) between 75 and 80% of the electrical conductivity of copper. In the case of the

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E193/E435

Development of a method ...

solution treated material, electrical conductivity decreases with increasing temperature of the solution treatment, being approximately 34 and 47% after quenching from 1000 and 900°C respectively.

8) The thickness of the surface layer in which chromium becomes oxidized at elevated temperatures depends on time at the given temperature. The thickness of the oxidized layer in an 8 mm thick strip held at 1000°C was 0.18, 0.26 and 0.59 mm after 15 min, 1 hour and 4 hours at the temperature, respectively. There are 3 figures, 4 tables and 2 Soviet references.

1

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18.1220

27041

S/032/61/027/019/021/022  
B110/B101

AUTHOR: Butomo, D. G., Chief of the TsZL

TITLE: Research work at the laboratory of the "Krasnyy Vyborzhets" Plant

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 10, 1961, 1314 - 1315

TEXT: Heat-resistant Cu alloys are developed at the Central Works Laboratory of the "Krasnyy Vyborzhets" Plant. Realization of required mechanical properties with fine-grain structure was achieved on the basis of investigations of chemical composition, degree of deformation, and thermal treatment of chrome bronze BX (BKKh). Combined hot rolling and pressing with tempering for subsequent aging was developed. Differences of Cr content in the solid solution which originate from semi-continuous casting and casting from the radiant furnace disappear during further processing. Anisotropy of mechanical properties is caused by separation of impurities ( $\text{Cu}_2\text{O}$ ) from the solid solution. Tempering at low temperatures (impossible in the electric furnace) produces optimum properties of non-ferrous

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Research work at the laboratory...

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S/032/61/027/010/021/022  
B110/B101

alloys for springs. In cooperation with the Institut "Giprotsvetmetobrabotka", ingots of ММЖ5-1 (MNZh 5-1) alloy were heated up to 950°C in industrial nitrogen conducted through charcoal in order to prevent oxidation. Thus, metal losses and losses through refuse of scab of the pressed tubes were prevented. Hot rolling of tin-phosphor bronze with various admixtures and production of a 0.1 mm thick copper band is being investigated at the TsZL. A spectral control method is specially applied to complete analysis of copper. The presence of foreign elements in the charge may be determined within 5 min by the quantometer ДЭС-10 (DFS-10), especially in the 3-ton furnace ИЛТ-3 (ILT-3) erected for the first time in the USSR for non-ferrous metals. A pneumatic-tube plant for conveying analytical results to furnace workers, and samples to the laboratory, is being developed. A larger laboratory for research work, and technological equipment are demanded.

ASSOCIATION: Zavod "Krasnyy Vyborzhets" ("Krasnyy Vyborzhets" Plant)

Card 2/2

KOROLEV, Yu.P.; BUTOMO, D.G.; BUROVA, Ye.S.

Utilization of the DFS-10 unit for rapid spectral analysis of  
nonferrous metals at the "Krasnyi vyborzhets" plant. Zav.lab.  
28 no.11:1392-1395 '62. (MIRA 15:11)

1. Zavod po obrabotke tsvetnykh metallov "Krasnyy Vyborzhets".  
(Nonferrous metals--Spectra)

BUTOMO, D.G.

Reduction of chromium losses in the manufacture of chromium  
bronze. TSvet. met. 35 no.4:74-80 Ap '62. (MIRA 15:4)  
(Copper-chromium alloys--Metallurgy)

~~BUTOMO, D.G.~~; VAYZHLIA, N.M.; ZVONKINA, V.F.; KOSHURIN, A.V.; SERGEYEV, L.N.;  
FRUMKINA, Yu.A.

Concerning the "Handbook on the processing of nonferrous metals and  
alloys" TSvet.met. 35 no.12:60 D '62. (MIRA 16:2)

1. Sovet Nauchno-tehnicheskogo obshchestva zavoda "Krasnyy  
Vyborzhets".

(Nonferrous metals)

GRINZAYD, Ye.L.; ~~BUTOMO D.G.~~; KOROLEV, Yu.P.; KOROBEKO, F.D.;  
BUROVA, Ye.S.

Determination of high contents of elements in alloys during  
the photoelectric recording of a spectrum. Zav. lab. 29 no.6:  
686-688 '63. (MIRA 16:6)

1. Leningradskiy politekhnicheskii institut imeni M.I. Kalinina,  
i zavod "Krasnyy Vyborzhets".  
(Alloys—Analysis) (Spectrum analysis)

BUTOMO, D.G.; ZAMOTORIN, M.I.; ZEDIN, N.I.; SOMOVA, Ye.P.

Earing of copper strip. TSvet. met. 36 no.7:77-81 J1 '63.  
(MIRA 16:8)  
(Copper) (Rolling (Metalwork))

ACCESSION NR: AT4014059

S/3072/63/000/000/0038/0048

AUTHOR: Chertavskikh, A. K.; Butomo, D. G.

TITLE: The effect of oxidation and lubrication on the runoff of metal during pressing

SOURCE: Fiz.-khim. zakonornosti deystviya smazok pri obrabotke metallov davleniyem. Moscow, Izd-vo AN SSSR, 1963, 38-48

TOPIC TAGS: metal pressure processing, nonferrous alloy pressure processing, non-ferrous alloy, MNZh 5-1 alloy, lubrication, metal runoff

ABSTRACT: A number of studies have been made on the effect of pressing techniques and pressing instrument profiles on the character of the runoff of nonferrous metals and alloys. However, in these papers the pig temperature and pressing force were not determined, and the ingots were heated only in an oxidizing medium (air). For the purpose of studying the nature of metal efflux during pressing, copper pins 8-10 mm in diameter were driven into the pigs to a depth of 15-20 mm. The distance between the pins was 20-30 mm, and their ends were made flush with the surface of the ingot. The temperature of the ingots was tested by means of an optical pyrometer ( $\Delta = 1.5\% t_{\text{meas.}}$ ). A temperature check of the pigs using a thermal probe failed to yield any promising results because of a thick, tough

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Card

ACCESSION NR: AT4014059

blister or skin. In studies with MNZh 5-1 alloy pressed in air with or without lubrication the least effort and greatest number of external flaws were obtained with a mixture of 20% technical graphite and 80% industrial grease (#45). It was also found that when pressing tubing without lubrication, the MNZh 5-1 alloy flows along the diagonal of the pig, beginning at the corner of the press-plate and proceeding toward the center of the matrix. This results from the presence of increased external friction on the boundaries of the "ingot-plate" and "ingot-container" interfaces. When pressing with a lubricant coating, the alloy flows easily, with the oxidized, peripheral part of the pig flowing parallel to the internal layers and shearing off at the apex of a dead angle. The oxidized metal continues to flow and (in the conical part) the oxides are forced to the outer surface of the tube (or rod), forming flaws. The authors discovered, moreover, that on pigs heated to 920C in technical nitrogen passed through heated charcoal, or merely in charcoal alone, no blisters were formed. "V. A. Maksimov, N. G. Ginsburg, M. V. Bubnova, A. I. Shanayev, A. V. Kashchurin, L. M. Radchenko, Ya. N. Kholkovskiy and G. I. Zverev took part in these studies." Orig. art. has: 17 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 19Dec63

ENCL: 00

SUB CODE: ML

NO REF SOV: 005

OTHER: 00

Card

2/2

ACCESSION NR: AP4039008

S/0136/64/000/005/0070/0073

AUTHOR: Butomo, D. G.

TITLE: Copper Brittleness

SOURCE: Tsvetny\*ye metally\*, no. 5, 1964, 70-73

TOPIC TAGS: copper, mechanical strength, O sub 2, Cu, Pb, As, Fe, Bi, Ni, P, Mg, hydrogen decomposition, solid solution, plasticity.

ABSTRACT: The mechanical strength of copper was tested in two specimens with 0.05 and 0.12% O<sub>2</sub>, one specimen without O<sub>2</sub> and one made of "OKB-259" copper produced under vacuum at 1 mm Hg. The compositions of the specimens were (%): 99.92-99.96 Cu; 0.001-0.003 Pb; 0.001-0.004 As; 0.001-0.011 Fe; traces or no Bi; 0.001-0.008 Sn; 0.0019-0.007 Ni; traces of P; traces or no Mg; 0.01-0.12 and no O<sub>2</sub>. Standard mechanical tests were made. The results show that within the 290-700°C range the solid solution of hydrogen in the copper (non-equilibrium state of metal - gas) undergoes decomposition accounting for the low plasticity observed during tensile tests at 300-400 C. It is assumed that an increased rate of tensile stress contributes to the removal of the interval at which the plasticity is lowered

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ACCESSION NR: AP4039008

because of the dissociation in time of the solid solutions copper - hydrogen. At low tensile stress application, the solid solution has sufficient time for decomposition. The author suggests that a further study be made of the reduction of area at 200 to 400 C and with a variable  $O_2$  content by determining the  $H_2$  content. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 04Jun64

ENCL: 00

SUB CODE: MM, GC

NO REF SOV: 001

OTHER: 001

Card

2/2

SLIOZBERG, S.K.; GINZBURG, S.K.; MIRKINA, L.M.; BUTOMO, D.G.; ZEDIN, N.I.

Chromium bronze for electrodes of resistance welding machines.  
Avtom. svar. 18 no.5:32-34 My '65. (MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo  
oborudovaniya (for Sliozberg, Ginzburg, Mirkina). 2. Zavod "Krasnyy  
vyborzhets" (for Butomo, Zedin).

L 62918-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(g)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/

1. The following information is being furnished to you:

2. The following information is being furnished to you:

3. The following information is being furnished to you:

Working. Maximum hardness, yield strength, electrical conductivity, etc.

Co-d 1-1

L 62918-65

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 10/10/2001 BY 60322  
EXCEPT WHERE SHOWN  
OTHERWISE

Card 2/2

L 23010-66 EWP(e)/EWT(m)/EWP(v)/T/EWP(t) JD/HM

ACC NR: AP6007667

SOURCE CODE: UR/0413/66/000/003/0039/0039

AUTHOR: Butomo, D. G.; Zedin, N. I.; Sliozberg, S. K.; Sokolov, M. P.

ORG: none

TITLE: Alloy for electrodes of resistance welders. Class 21,  
No. 178426 [announced by the All-Union Scientific Research Institute  
of Welding Equipment (Vsesoyuznyy nauchno-issledovatel'skiy institut  
elektrosvarochnogo oborudovaniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3,  
1966, 39

TOPIC TAGS: alloy, electrode, welding electrode, resistance  
welding

ABSTRACT: An Author Certificate has been issued describing an alloy  
for electrodes containing copper and magnesium for resistance welders.  
In order to increase the strength of the electrode in resistance weld-  
ing of aluminum and its alloys; the electrode alloy is supplemented  
with ~0.1% boron, the other compounds are magnesium (up to 0.30%),  
and the balance is copper. [LD]

SUB CODE: 11, 13/ SUBM DATE: 04Jan65/

Card 1/1 *pla* UDC: 621.791.763.037.2

I. 39L68-66 ENT(m)/T/ENP(w)/ENP(t)/ETI IJP(c) JH/JD/HW

ACC NR: AP6019507 SOURCE CODE: UR/0129/66/000/006/0044/0047

AUTHOR: Butomo, D. G.; Firkovich, I. A.

ORG: "Krasnyy vyborzheta" Plant (Zavod "Krasnyy vyborzheta")

TITLE: The reasons for the formation of cracks in Cu-Ni-Al alloy A  
(MNA-13-3)

SOURCE: Metallovedeniye i termicheskaya obrabotka, no. 6, 1966, 44-47

alloy  
TOPIC TAGS: copper containing alloy, nickel containing alloy, aluminum containing alloy, material fracture, crack propagation, alloy phase diagram, metal heat treatment, hardness, crystal lattice parameter / MNA-13-3 alloy  
ABSTRACT: In addition to copper, the melts of the alloy investigated contained: 13% nickel, 0.8% iron. The amount of aluminum varied and was 0.87, 1.73, and 2.98%. The article gives a phase diagram of the Cu-Ni-Al system. After melting of the alloys, rods with a diameter of 30 mm were produced by hot pressing in a 600 ton press. From these rods, samples 30 mm long were cut. Preliminary heat treatment consisted in heating to 950°C (holding time 1 hour) followed by quenching in water. The samples were then annealed at 300-900°C for 4 hours, followed by rapid cooling. After the heat treatment, a study was made of the hardness and the microhardness, the parameters of the crystal lattice.

Card 1/2

UDC: 620.191.32:669.14.018.58

L 38468-66

ACC NR: AP6019507

were measured, and the microstructure was studied. In addition, the samples with 2.98% aluminum were subjected to mechanical tests at high temperatures. Results show that the hardness, the microhardness, and the lattice parameters after annealing at 950°C increase with an increase in the aluminum content. Detailed results are exhibited in a series of tables and figures. It is concluded that the reason for the formation of cracks during low temperature heating is the stress due to the large difference of the microhardness at the grain boundaries and in the grains. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002

9(6)

SOV/112-59-2-3476

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2,  
pp 177-178 (USSR)

AUTHOR: Tarasov, V. S., Aksenov, B. Ye., and Butomo, I. D.

TITLE: Use of Electronic Computers for Solving Various Problems of Engineering  
Physics (Primeneniye elektronnykh matematicheskikh mashin dlya resheniya  
zadach iz razlichnykh oblastey tekhnicheskoy fiziki)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 194, pp 223-240

ABSTRACT: Four examples of problems are cited that were solved by an analog  
computer (developed in 1953-1954) in the Leningrad Polytechnic Institute:

1. Investigation of the behavior of a gyrotachometer subjected to sinusoidal  
and dry-friction torques.
2. Investigation of an electromechanical nonlinear  
followup system that has two degrees of freedom.
3. The problem of a  
laminar boundary layer which can be reduced to solving of a nonlinear  
differential equation of the third order with specified boundary conditions.

Card 1/2

SOV/112-59-2-3476

Use of Electronic Computers for Solving Various Problems of Engineering Physics

4. Investigation of an explosion of a dustlike mixture in an enclosed space.  
For each of the above problems, complete schemes of solution are presented, methods for selecting scale factors are described, and graphical solutions are given. Eighteen illustrations. Bibliography: 1 item.

Ye.G.S.

Card 2/2

BUTOMO, I.V.

~~Some errors in early diagnosis of brain tumors in children.~~  
Vop.okh.mat. i det. 7 no.21:8-14 D'62. (MIRA 16:7)

1. Iz kliniki nervnykh bolezney (zav.--prof. Ye.F.Davidenkova)  
Leningradskogo pediatricheskogo meditsinskogo instituta (rek-  
tor Ye.P.Semenova, glavnyy vrach M.Kh.Maksutova)  
(BRAIN--TUMORS) (CHILDREN--DISEASES)